## REMARKS

### Present Status of the Application

The Advisory Action pointed out the objection to claims 10-17 has been successfully removed. However, the amendment for claim 1 can not be supported by the specification and the amendment of claim 1 raises new issues.

Applicant has amended claim 1 to more clearly define the invention. In particular, the limitation "the dopant concentration of the second conductive type embedded region under the second conductive type well is the same to the dopant concentration of the second conductive type embedded region beside the second conductive type well" added in claim 1 is shown in Fig. 2. In addition, paragraph [0022] of the specification also discloses the N-type deep well 202 is formed by performing an ion implantation using ions set to an energy level suitable for landing at a particular depth within the P-type substrate 200. Therefore, the whole N-type deep well 202 has single dopant concentration but not have different dopant concentrations. Therefore, the limitation added in claim 1 is supported by the specification, and no new matter is entered.

After entry of the foregoing amendments, claims 1-17 remain pending in the present application, and reconsideration of those claims is respectfully requested.

**Discussion of Office Action Rejections**

*Applicant respectfully traverses the 102(b) rejection of claims 1-9 because Russ et al. (U.S. 2003/0047750) does not teach every element recited in these claims.*

In order to properly anticipate Applicants' claimed invention under 35 U.S.C 102, each and every element of claim in issue must be found, "either expressly or inherently described, in a single prior art reference". "The identical invention must be shown in as complete details as is contained in the .... claim. Richardson v. Suzuki Motor Co., 868 F. 2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)." See M.P.E.P. 2131, 8th ed., 2001.

The present invention is in general related a junction diode as claim 1 recites:

Claim 1. A junction diode, comprising:
a first conductive type substrate;
a second conductive type embedded region, formed within the first conductive type substrate;
a second conductive type well, formed within the second conductive type embedded region, wherein the second conductive type well has a dopant concentration smaller than the second conductive type embedded region, and the second conductive type embedded region surrounds the second conductive type well, ***wherein the dopant concentration of the second conductive type embedded region under the second conductive type well is the same to the dopant concentration of the second conductive type embedded region beside the second conductive type well***;
a first conductive type doped region, formed in the second conductive type well; and
at least two second conductive type doped regions, formed in the second conductive type embedded region beside the first conductive type doped region.

Russ fails to disclose, teach or suggest the dopant concentration of the second conductive type embedded region under the second conductive type well is the same to the dopant concentration of the second conductive type embedded region beside the second conductive type well. In Russ's reference, the device, as shown in Fig. 2, includes a p-substrate 203, a buried layer N-type 205, an N-epitaxial layer 208, P+ region 212 and N+ regions $210_1$ and $210_2$. The N-

epitaxial layer 208 is surrounded by the buried layer N-type 205 and the N+ sinkers $206_1$ and $206_2$, wherein the buried layer N-type 205 is located at the bottom of the N-epitaxial layer 208 while the two N+ sinkers $206_1$ and $206_2$ are located at two sidewalls of the N-epitaxial layer 208. In particular, the buried layer N-type 205 has a doping concentration of 2E19 atoms/$cm^{-3}$ (paragraph [0033]) while the N+ sinkers $206_1$ and $206_2$ have a doping concentration of $10^{18}$ atoms/$cm^{-3}$ (paragraph [0034]). Therefore, the doping concentration of the N+ sinkers $206_1$ and $206_2$ is different from that of the buried layer N-type 205. However, in claim 1 of the present invention, the dopant concentration of the second conductive type embedded region under the second conductive type well is the same to the dopant concentration of the second conductive type embedded region beside the second conductive type well. Russ does not teach or suggest said feature. Therefore, Dikeman does not teach every element recited in claim 1.

For at least the foregoing reasons, Applicant respectfully submits that independent claim 1 patently define over the prior art reference, and should be allowed. For at least the same reasons, dependent claims 2-9 patently define over the prior art as a matter of law, for at least the reason that these dependent claims contain all features of their respective independent claim 1.

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## CONCLUSION

For at least the foregoing reasons, it is believed that the pending claims 1-17 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted,
J.C. PATENTS

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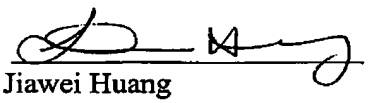

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